

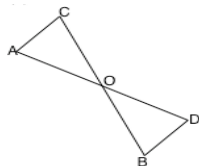
Geometry

Assignment #1

Triangle Congruence

Complete these SAS triangle congruence proofs:

(a) **given** $AO \cong OD$; $BO \cong OC$
problem prove $\triangle OCA \cong \triangle ODB$



solution

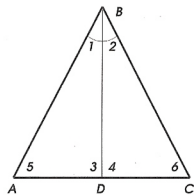
$AO \cong OD$; $BO \cong OC$
 angle $AOC \cong$ angle BOD
 triangle $OCA \cong$ triangle ODB

picture

conclusion

- (1)
- (2)
- (3) SAS triangle congruence

(b) **given** triangle ABC is
 isosceles; angle $1 \cong$ angle 2
problem prove $\triangle ADB \cong \triangle CDB$



solution

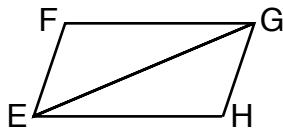
triangle ABC is isosceles;
 angle $1 \cong$ angle 2
 $BD \cong DB$
 $AB \cong BC$
 triangle $ADB \cong$ triangle CDB

picture

conclusion

- (1)
- (2)
- (3)
- (4)

(c) **given** $FE \cong GH$;
 angle $GEF \cong$ angle HGE
problem prove $\triangle FEG \cong \triangle EGH$



solution

$FE \cong GH$; angle $GEF \cong$ angle HGE
 $GE \cong EG$
 triangle $FEG \cong$ triangle EGH

picture

conclusion

- (1)
- (2)
- (3) SAS triangle congruence